

### **REMARKS**

Applicants thank the Examiner for a thorough review of the present application and note with appreciation the Examiner's indication that Claims 5, 7-11, 13, 18, 23, and 27-32 contain patentable subject matter and would be allowed if rewritten in independent form including all of the limitations of the base claims and any intervening claims. Applicants have amended independent Claims 1 and 33 to incorporate limitations from Claims 7 and/or Claim 9, which are directed to allowable subject matter. Accordingly, Claims 7 and 9 have been cancelled without prejudice. Applicants have also amended independent Claim 22 to clarify that the data recited therein represents corresponding resources. Applicants have newly presented independent Claims 35 and 36, which are directed to the allowable subject matter corresponding to Claims 11 and 18, respectively. Applicants have newly presented dependent Claim 34, which depends from amended Claim 33. Applicants request reconsideration of Claims 1-4, 6, 12, 14-17, 19-22, 24-26, and 33, and consideration of newly presented Claims 34-36 in view of the Amendments and Remarks set forth herein.

### **Oath/Declaration**

The Office Action states that the Declaration is defective because it was not executed in accordance with either 37 C.F.R. § 1.66 or 1.68. The Applicants respectfully submit that the Declaration conforms to 37 C.F.R. § 1.68. Specifically, the Declaration, filed July 18, 2000, is a written document identifying this application by application number and filing date on page 1. On page 2 of the Declaration, the declarants (i.e., the Applicants) warn that "willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issuing therefrom." The declarants, Applicants, also declare on page 2 that all statements made in the declaration are of the declarant's own knowledge and are true and that all statements made on information and belief are believed to be true. Accordingly, Applicants respectfully request acceptance of the Declaration filed July 18, 2000.

### Drawings

The Office Action provides that new formal drawings are required. In accordance with 37 C.F.R. §§ 1.111 and 1.121, enclosed herewith are one set (8 sheets) of new formal drawings conforming to 37 C.F.R. §§ 1.81, 1.83, and 1.84. The drawings have been amended to add duplicate numerical identifiers for five elements of Figure 4b corresponding to identical elements of Figure 4a. It is requested that these new drawings be substituted for the originally filed drawings.

### Specification

Applicants have submitted several amendments to the specification to correct typographical errors. In accordance with 37 C.F.R. § 1.121(f), Applicants submit that these amendments do not introduce any new matter into the disclosure.

### Invention

The present invention provides systems and methods for performing operations management by representing resources with devices that find relations among the resources and transform a resource, such as combining related resources, to form new resources. According to one embodiment of the present invention, as recited in amended independent Claim 1, there is provided a system for performing operations management in an environment of a plurality of resources where devices corresponding to the resources determine at least one relation between corresponding resources by searching for a complementary and/or a substitute resource.

According to another embodiment of the present invention, as recited in independent Claim 14, there is provided a system for performing operations management in an environment of a plurality of resources where devices corresponding to the resources selectively transform the corresponding resource. The devices of the system further characterize the corresponding resources.

According to another embodiment of the present invention, as recited in independent Claim 22, there is provided a system for performing operations management in an environment of a plurality of resources where devices transmit data representing corresponding resources to other devices. The system further includes at least one computer for receiving data for devices and determining at least one relation among the resources for the data.

According to another embodiment of the present invention, as recited in independent Claim 24, there is provided a method for performing operations management in an environment of a plurality of resources including the steps of defining at least one global performance measure of an algorithm, executing the algorithm for a plurality of different values of one or more parameters to generate corresponding values for the global performance measure, constructing a fitness landscape from the values and the corresponding values, and optimizing over the fitness landscape to generate optimal values for the parameter(s). These and other features of the present invention are recited in claims of the above-referenced application.

#### Rejections Under 35 U.S.C. § 102

The Office Action rejected Claims 1-4, 6, 12, 14-17, 19-22, 24-26, and 33 under 35 U.S.C. § 102 as being unpatentable over *A Meta-Model for Formulating Knowledge-Based Models of Software Development* by Peiwei Mi and Walt Scacchi (hereinafter the "Mi et al. reference"). As noted above, Applicants have amended independent Claims 1 and 33 to incorporate the limitations from Claims 7 and/or 9, both of which the Examiner indicated contain allowable subject matter. Accordingly, Applicants request that the rejection of independent Claims 1 and 33, and the claims depending therefrom, be withdrawn.

The Mi et al. reference discloses a unified resource model (URM) for creating different software development models (SDMs) for creating process-centered software development support environments (PSDSEs). The Mi et al. reference further discloses the possibility of mapping different SDMs across varying software development infrastructures.

Regarding independent Claim 14, Applicants note that the Office Action does not assert that the Mi et al. reference teaches or suggests “selectively transforming said corresponding resource,” as recited in Claim 14. Indeed, Applicants submit that the Mi et al. reference does not teach or suggest this limitation. Specifically, the Mi et al. reference teaches that “heuristics examine which classes of the necessary resources are unavailable, available but already in use elsewhere, available but broken, similar type available, or available as well as with multi-resource combinations (e.g., process A subsumes process B which requires a certain class of tool and certain class of staff)” (page 21, last paragraph (emphasis added)). Thus, the Mi et al. reference teaches only that a URM might examine the status of resources. The Mi et al. references does not teach or suggest that a URM, or a device of a URM, might transform a resource. Accordingly, Applicants submit that independent Claim 14, and the claims depending therefrom, include recitations which patentably distinguish the claimed invention over the cited references.

Regarding independent Claim 22, the Office Action asserts that the Mi et al. reference teaches “transmitting said data of said corresponding resource to others of said plurality of devices,” and “at least one computer, said computer performing the steps of: receiving said data representing said corresponding resource for at least one of said devices; and determining at least one relation among the resources for said data representing said corresponding resource”. Applicants respectfully disagree. The Mi et al. reference teaches that “the URM [is described] both formally and with a detailed example, followed by a characterization of the process of SDM composition, and then by a characterization of the lifecycle of activities involved in an overall model formulation process.” (Page 1, Abstract). Thus, the Mi et al. reference teaches only characterizing the process of SDM composition. The Mi et al. references does not teach or suggest transmitting the data of the corresponding resource to others of the plurality of devices, as recited in independent Claim 22. This functionality is advantageous since it provides a more robust system than that taught or suggested by Mi et al.

The Mi et al. reference also teaches that a “set of documents is designed around an object called a Computer Software Configuration Item (CSCI),” that “[a Software-development-model] consists of ... a set of optional other resource models as its input...,” and that “[t]he URM consists of *resource classes* and a *web of relations* that link different types of resources found in different kinds of models of software development.” (Pages 17, 12, and 1, respectively). As disclosed in the Mi et al. reference, input models are used with resources, but do not represent the resources. Thus, the Mi et al. reference teaches a computer object, input models, and a web of relations linking different types of resources. However, the Mi et al. reference does not teach or suggest data representing a corresponding resource or determining relations among the resources for the data representing the corresponding resources. Accordingly, Applicants submit that independent Claim 22, and the claims depending therefrom, include recitations which patentably distinguish the claimed invention over the cited references.

Regarding independent Claim 24, Applicants note that the Office Action does not assert that the Mi et al. reference teaches or suggests “defining at least one algorithm having one or more parameters for performing operations management” and “optimizing over said fitness landscape to generate optimal values for said at least one parameter,” as recited in independent Claim 24. Applicants submit that the Mi et al. reference does not teach or suggest defining an algorithm or optimizing to generate optimal values for parameters. Instead, the Mi et al. reference teaches “finding or matching a candidate software process model ... with its target software development infrastructure” and “establishing some criteria or measure of acceptable distance from an exact match [of the candidate software process model to the target software development infrastructure].” ( Page 21, first and third paragraphs). Accordingly, Applicants submit that independent Claim 24, and the claims depending therefrom, include recitations which patentably distinguish the claimed invention over the cited references.

For the reasons provided above, Applicants respectfully submit that the rejections of independent Claims 1, 14, 22, 24 and 33 under 35 U.S.C. § 102, as well as the claims that depend therefrom, should be withdrawn.

#### Newly Presented Claims

Applicants have newly presented dependent Claim 34 and independent Claims 35 and 36. Claim 34 depends from amended Claim 33, which includes the limitations of Claims 7 and/or 9 directed to allowable subject matter. Claim 35 recites “determining at least one relation between said corresponding resource and others of said plurality of resources, wherein each of said plurality of devices is physically attached to said corresponding resource,” which corresponds to the limitation recited in Claim 11 and which the Examiner indicated was allowable subject matter. Claim 36 recites “selectively transforming said corresponding resource, wherein said step of selectively transforming is performed by only a portion, *tau*, of said devices,” which corresponds to the limitation recited in Claim 18 and which the Examiner indicated was allowable subject matter. Accordingly, Applicants respectfully submit that dependent Claim 34 and independent Claims 35 and 36 are in condition for allowance.

#### Conclusion

In view of the foregoing remarks, Applicants respectfully submit that the present claims are in condition for allowance. It is, therefore, respectfully requested that a Notice of Allowance be issued in due course. Examiner Starks is encouraged to contact Applicants’ undersigned attorney to resolve any remaining issues in order to expedite examination of the present application.

In re: Kauffman et al.  
Appl. No.: 09/507,966  
Filed: February 22, 2000  
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A three-month extension is required for the filing of this response, and a check for \$475.00 is hereby enclosed. However, in the event that any additional fee is required (including \$86.00 of fees for net addition of claims), such fee is hereby authorized to be charged to Deposit Account No. 16-0605.

Respectfully submitted,




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